FIG. I

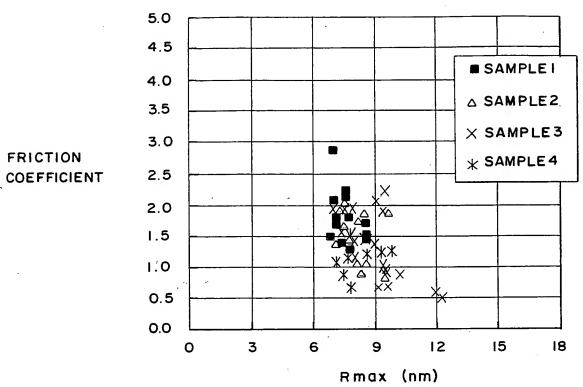


FIG.2

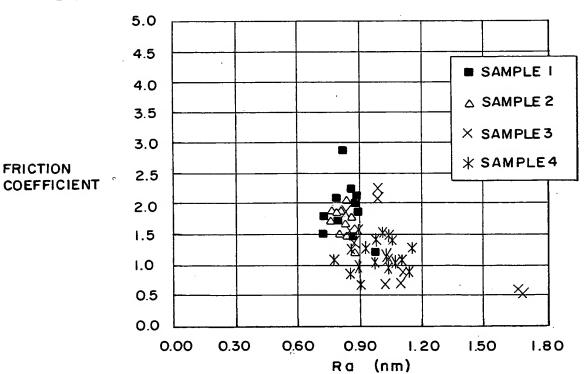


FIG.3

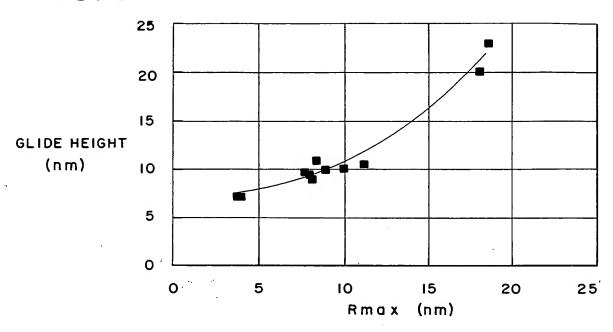


FIG. 4

| SAMPLE | Rmax | Ra | OBA%@3nm |
|----------|------|------|----------|
| SAMPLE I | 7.55 | 0.88 | 43 |
| SAMPLE 2 | 7.12 | 0.72 | 73 |
| SAMPLE 3 | 7.83 | 0.90 | 60 |
| SAMPLE 4 | 8.18 | 0.88 | 26 |

DEPTH FROM REAL PEAK HEIGHT (nm)

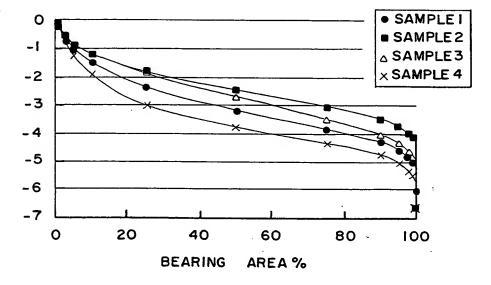


FIG.5

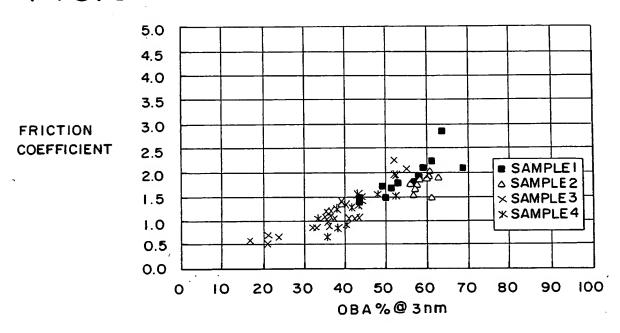


FIG.6

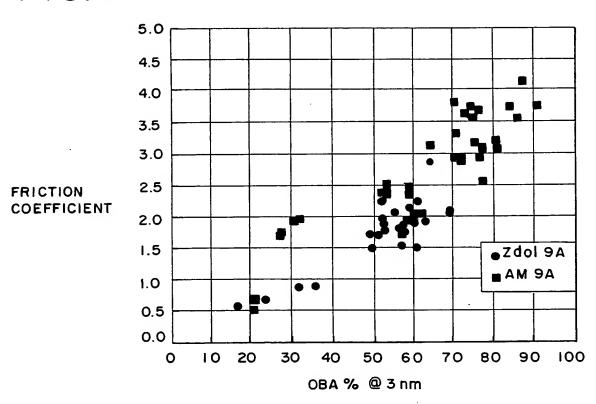
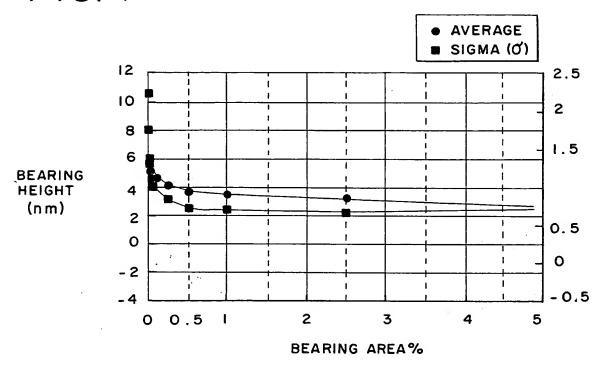


FIG. 7



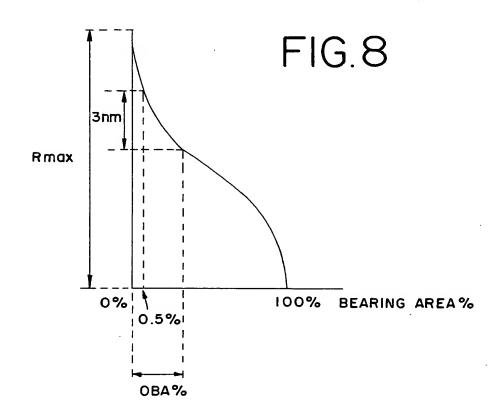


FIG.9

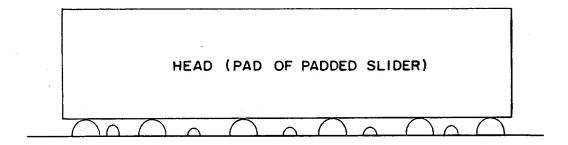
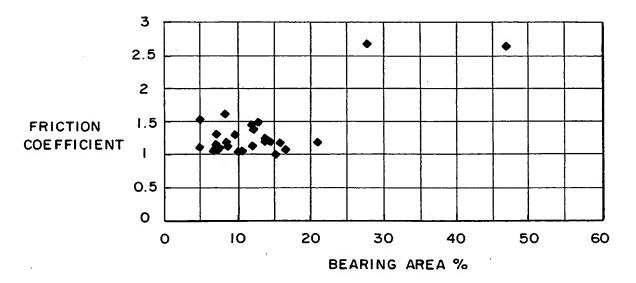


FIG.IO



| | + 2 REAL PEAK HEIGHT: BEARING VALUE AT WHICH BEARING HEIGHT MEASURED VALUE RAPIDLY STARTS TO SCATTER. | | | | | |
|--|---|---|---|---|--|--|
| | | | OBTAIN RELATION BETWEEN RMOX AND BEARING AREA BY AFM | DETERMINE REAL PEAK HEIGHT +2 IN ACCORDANCE WITH MEDIUM SURFACE ROUGHNESS | OBTAIN RELATION OF DEPTH FROM REAL PEAK HEIGHT WITH BEARING AREA, AND DETERMINE SLICE LEVEL AT WHICH BEARING AREA CHANGE | AMOUNT INCREASES DETERMINE BEARING AREA VALUE IN DETERMINED SLICE LEVEL= OBA % |
| | | , | | d-2 | д-р | d-4 |
| OBTAIN RELATION OF MEDIUM SURFACE ROUGHNESS (RMDX) WITH MAGNETIC HEAD FLYING AMOUNT (GLIDE HEIGHT) AT WHICH MAGNETIC HEAD STARTS TO CONTACT MEDIUM SURFACE | DETERMINE MEDIUM SURFACE ROUGHNESS (RMax) FOR ACHIEVING DESIRED GLIDE HEIGHT | DETERMINE ALLOWABLE RANGE OF FRICTION COEFFICIENT IN MEDIUM SURFACE IN ACCORDANCE WITH DRIVE TORQUE OF SPINDLE MOTOR OF HARD DISK DRIVE | OBTAIN CORRELATION OF OFFSET BEARING AREA (OBA%) *1 WITH FRICTION COEFFICIENT | DETERMINE OBA % TO OBTAIN DESIRED FRICTION COEFFICIENT | PREPARE MAGNETIC DISK SUBSTRATE * 3 IN WHICH SUBSTRATE SURFACE HAS DESIRED OBA% | FORM MAGNETIC LAYER AND OTHER FILMS ON SUBSTRATE TO PREPARE MAGNETIC DISK * 4 |
| O | ٩ | O | ъ | Φ | 4- | Ð |

FIG. 12

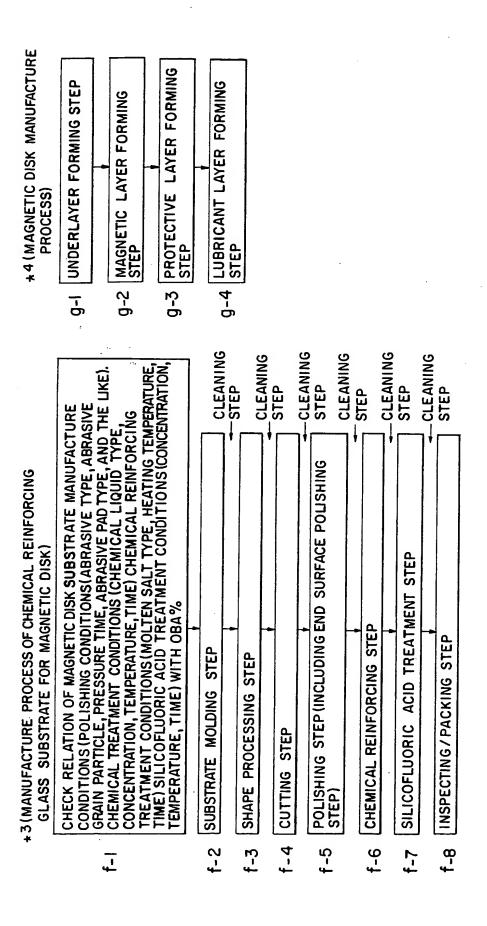


FIG.13

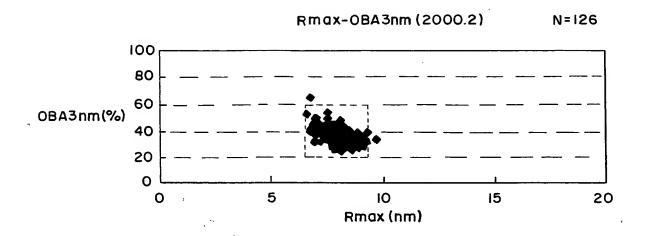
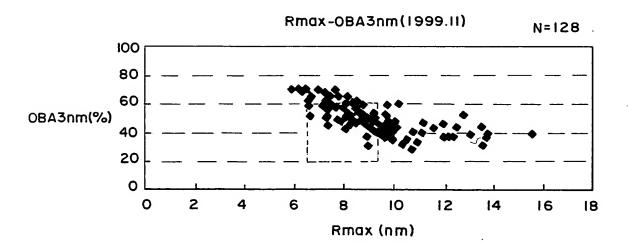
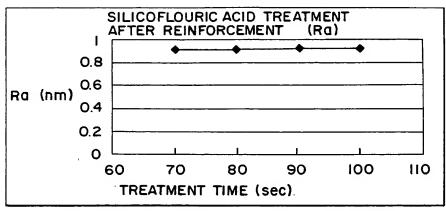


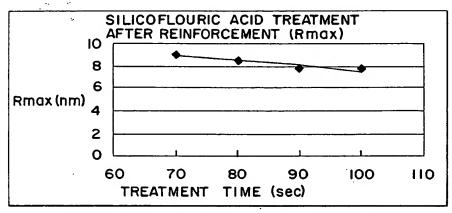
FIG. 14





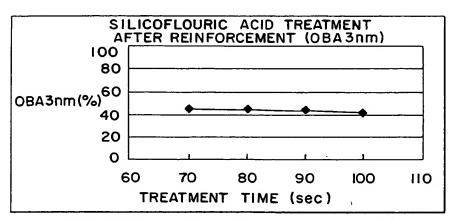
ROUGHNESS CHANGE BY H2SIF6 TREATMENT AFTER CHEMICAL REINFORCEMENT (Rd)

FIG.16



ROUGHNESS CHANGE BY H2SIF6 TREATMENT AFTER CHEMICAL REINFORCEMENT (Rmax)

FIG.17



ROUGHNESS CHANGE BY H2SIF6 TREATMENT AFTER CHEMICAL REINFORCEMENT (OBA3nm)